XIII. "Contributions to Terrestrial Magnetism."—No. XV. By General Sir Edward Sabine, R.A., K.C.B., F.R.S. Received June 14, 1876.

(Abstract.)

The paper now offered to the Society forms the fifteenth and last of a series of papers printed in the Philosophical Transactions, entitled "Contributions to Terrestrial Magnetism." The whole fifteen numbers are related to each other as "Contributions to the Magnetic Survey of the Globe." Four of them, viz. XI., XIII., XIV. and the present paper, contain the complete statement of this survey in the double form of "Catalogue" or "Tables" and of "Magnetic Maps;" of these maps there are twelve, one for each of the three magnetic elements in each of the four papers. The present paper consists (as did its last predecessor, No. XIV.) of four zones, each 10° in breadth:—

Zone 1,	comprehending	from	the equator	to	10° S.
Zone 2,	,,	,,	lat. 10° S.	,,	20° S.
Zone 3,	,,	,,	lat. 20° S.	,,	30° S.
Zone 4,	,,	,,	lat. 30° S.	,,	40° S.

In the Tables the observations are entered in each zone in the succession of their longitudes, beginning with the meridian of Greenwich. The statements in the introduction to No. XIII. regarding the different magnetic elements apply to the present paper, as they did also to the preceding paper, No. XIV.

The question of correction for secular change next presents itself. Happily the greater part of the observations were made within, or very near to, the "mean epoch," viz. 1840–1845. Sea-observations were not generally corrected for differences of epoch in the previous papers; but in the present paper such corrections have been introduced for observations within the range of places (land stations) where the rate of secular change has been sufficiently established.

Nos. XI. & XIII., published earlier, comprise the northern and southern portions of the globe from either pole to lat. 40°. These are the regions which have long been recognized as offering to the magnetician at once the most arduous and the most important field of research. In the middle or equatorial portions of the globe, comprised in the last and present papers, the magnetic relations are simpler, and the laying down of the lines representing them derives much aid from the adjacent portions of the north and south polar maps; therefore, both as regards observations and treatment, less abundant as well as less exact evidence, it is hoped, may suffice.